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CLAIMS

1. Multicapillary electrophoresis system comprising a plurality of juxtaposed capillaries, at least one source for the emission of a beam intended to excite molecules lying in its path and inside the capillaries and means for detecting the fluorescence of the molecules excited by said beam, characterized in that said means are arranged so as to detect the light which emerges at the exit of said capillaries and which propagates along the direction in which said capillaries extend and in that the resolution of the detection means is high enough to distinguish the light which emerges at the exit of each of the capillaries.

2. Multicapillary electrophoresis system according to claim 1, wherein the resolution of the detection means is high enough to distinguish the light which emerges at the exit of each of the capillaries from that coming from the walls of the latter and/or from the medium which surrounds them.

3. System according to claim 1, characterized in that it includes a matrix of capillaries.

4. System according to one of the preceding claims, characterized in that the excitation beam is of elongate cross section and strikes several superposed capillaries simultaneously.

5. System according to claim 4, characterized in that it includes means, such as microlenses, for producing multiple focusing on a linear array of capillaries.

6. System according to either of claims 4 and 5, characterized in that one linear array of capillaries produces multiple focusing at the entry of the following linear array.

7. System according to one of the preceding claims, characterized in that the space between the capillaries is filled, at least along the path of the

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excitation beam, with a material whose refractive index is chosen so that the excitation beam does not diverge after having traveled through a capillary.

5 8. System according to claim 5, characterized in that said material is transparent and non-fluorescent.

10 9. System according to one of the preceding claims, characterized in that it includes means for applying pressure in the detection cuvette, which pressure allows the capillaries to be filled with the separating matrix.

15 10. System according to one of the preceding claims, characterized in that it includes dispersion means for spatially separating the various fluorescence wavelengths.

20 11. System according to one of the preceding claims, characterized in that the detection means provide a complete image of the light exiting the capillaries.

25 12. System according to one of the preceding claims, characterized in that the detection means comprise detection means of the charge-coupled device (CCD) type, as well as focusing means.

30 13. System according to one of the preceding claims, characterized in that the detection means comprise detection means of the charge-coupled device (CCD) type, as well as a fiber bundle interposed between the exits of the capillaries and the detection means of the charge-coupled device type.

35 14. System according to any of the preceding claims in which the refractive index of the media outside of the capillaries is equal or superior to that of the medium inside of the capillaries.

15. System according to claims 1 to 13 in which the refractive index of the media outside of the capillaries is less to that of the medium inside of the capillaries.

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16. System according to claim 15 in which the portion of the outside of the wall of the capillaries between the impact of the excitation beam and the end of the capillaries is turned black.

5 17. System according to claim 16 in which the capillaries are glued on their support.

18. System according to claim 17 in which the capillaries are glued on their support using a non transparent glue.

10 19. System according to claim 1 in which one end of the capillaries is placed in a cell under pressure and the capillaries are fixed on a support by glue suitable to resist the internal pressure of the cell.

15 20. System according to any of preceding claims in which the distance between the impact of the excitation beam on the capillaries and the end of the capillaries is between 6 to 30 times the internal diameter of the capillaries.

20 21. System according to any of the preceding claims in which a mirror is facing the laser source on the side of the capillaries which is opposed to said laser source.

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